REMARKS

Applicants appreciate the Office's review of the present application. In response to the Office Action, the cited references have been reviewed, and the rejections and objections made to the claims by the Examiner have been considered.

Applicants respectfully request entry of this amendment and reconsideration of the application in light of the following remarks.

Rejections

Rejection Under 35USC §103

Claims 1-3, 5-11, 13-20, 23, 25-29, 32, 34-40, 42-45, and 49-52 have been rejected under 35 USC §103(a), as being unpatentable over U.S. patent 6,757,073 to Kuroda ("Kuroda") in view of U.S. patent 6,667,814 to Tillotson ("Tillotson"). Applicants respectfully traverse the rejection and request reconsideration.

As to a rejection under 103(a), the U.S. Patent and Trademark Office ("USPTO") has the burden under §103 to establish a *prima facie* case of obviousness by showing some objective teaching in the prior art or generally available knowledge of one of ordinary skill in the art that would lead that individual to the claimed invention. *See In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988)*. The Manual of Patent Examining Procedure (MPEP) section 2143 discusses the requirements of a *prima facie* case for obviousness. That section provides as follows:

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the

claimed combination and reasonable expectation of success must be found in the prior art, and not based on applicant's disclosure.

The rejection of independent claim 35, and its dependent claims 36-40 and 42, is respectfully traversed for at least the following reasons. Claim 35 recites:

"35. (Previously presented) An apparatus comprising:
memory;
one or more processors;
computer-readable instructions in the memory which, when executed by the one or more processors, cause the processors to:
receive data defining a document having a plurality of logical pages that is to be printed on a printer;
process the data to identify one or more characteristics of the data indicative of visual discernability to the human eye of at least one feature of the data;
based on the one or more characteristics, select a number of logical pages per print medium page for an N-Up printing mode in which to print the document." (emphasis added)

The Office has not established a *prima facie* case of obviousness at least because the applied references do not teach or suggest all of Applicants' claim limitations. The Kuroda reference discloses a data processing apparatus in which the number of logical pages per print medium page for an N-Up printing mode is automatically selected based on the total number of logical pages in the document being printed. However, the Office states that

"Kuroda ('073) does not disclose identifying one or more characteristics that indicates visual discernability to the human eye of a feature of data. Tillotson ('814) discloses identifying a default image size for the print document in order to establish a maximum acceptable number of pages for one side of paper (in order to not make the pages too small for the eye to read, See Col. 2, Line 6-15)." (Office Action, p.2-3; emphasis added)

The Office further states that

"Even though Kuroda does not fully disclose automatically selecting based on a characteristic, Kuroda in view of Tillotson discloses this limitation. For example, Tillotson discloses analyzing and calculating the document in order to determine if the image size is an acceptable amount of pages per medium (See Col. 2, Line 6-15). If the information included within the document, text and/or graphics, is too small or too large, the document is adjusted accordingly so that the largest possible image size is able to be printed onto the fewest number of output sheets." (Office Action, p.13-14)

Applicants disagree that the Tillotson reference, alone or in combination with the Kuroda reference, discloses a complete construction of the limitations in which document data is processed to identify one or more characteristics of the data indicative of visual discernability to the human eye of at least one feature of the data. In addition, to whatever extent such a characteristic is identified, the identification is clearly not performed by processing document data. As understood with reference to the flowchart of Fig. 3A-3B of the Tillotson reference which illustrates the steps performed by the printer, at block 70 a parameter l_{max} is given. The parameter l_{max} is not obtained by processing document data, but rather is "the user specified maximum number of tolerable page images that should be rendered onto one side of paper" (Fig. 3A, block 70; emphasis added). It is assumed, arguendo, that "tolerable" relates to readability ("The only limit on the number of images per side is the maintenance of an acceptable print image resolution and readability"; col. 1, lines 27-29). The Tillotson reference further teaches that "the step of calculating the number of print sheets includes choosing as a default image size, the printer up-image value which is equal to and, alternately, which is less than, the acceptable number of page images per side" (col. 2, lines 16-20). Therefore, any processing performed on the data by the Tillotson reference does not identify characteristics indicative of visual discernability as recited in Applicants' claim 35, but rather ensures that the final value of N-up used for printing is equal to or less than a characteristic of visual discernability (i.e. the parameter l_{max}) that has previously been determined and specified by a user.

In addition, the Office has not established a *prima facie* case of obviousness at least because there is no suggestion or motivation to modify the reference or to combine reference teachings. The flowchart of Fig. 3A-B of the Tillotson reference performs the same function, and produces the same result, as does the flowchart of Fig. 11 (which accesses the table of Fig. 12) of the Kuroda reference. For example, assume that the set "s" of the Tillotson reference (the number of page images that can be rendered onto one side of the paper by the printer) is the same as illustrated in the "N as Designated" column of Fig. 12 of the Kuroda reference – namely, 2, 4, 8, 9, and 16. Also, assume that the number of pages in the document (i.e. parameter I of the

Kuroda reference, and parameter I_d of the Tillotson reference) is set equal to 3. Further, assume that the user specified value of l_{max} (Tillotson) and N (Kuroda) is set equal to 9. In Kuroda, a table lookup for N=9 and I=3 quickly yields an Optimum N value of 4. In Tillotson, the loop through the "No" branch of block 76 is executed 5 times (for the values 9, 8, 4, 2, and 1), and the loop through the "Yes" branch of block 90 is executed 3 times, and then block 96 returns a value of 4 as the number of page images per side that the printer should use to render the document.

The above example further shows lack of suggestion or motivation to combine because the algorithm of the Tillotson reference is more complex than the simple table lookup of Fig. 11 of the Kuroda reference. Due to this increased complexity, and cycling though the various loops multiple times, the algorithm of the Tillotson reference would take longer to execute than the straightforward table lookup of the Kuroda reference. This longer time to execute would disadvantageously reduce throughput of N-up printing operations if the Tillotson reference were to be combined with the Kuroda reference. In addition, it can be seen from the various decision loops in the flowchart of Fig. 3A-3B that the time required to execute the algorithm of the Tillotson reference is dependent on the number of pages and the user-specified value for l_{max}, and therefore execution time is disadvantageously inconsistent from document to document, and print job to print job. Conversely, the table lookup of Kuroda is performed in approximately the same, consistent time, regardless of the number of pages and the designated value of N.

At least for the reasons discussed above, Applicants respectfully traverse the Office's assertion that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the claimed features of Applicants' invention. Such could be possible only in hindsight and in light of Applicants' teachings. Therefore, the rejection is improper and should be withdrawn.

Independent claims 1, 9, and 43 each recite limitations similar to those of claim 35, discussed above, and were rejected on the same or similar basis. For similar reasons as explained heretofore with regard to claim 35, the features of the present invention are not taught or

suggested by the cited references, and motivation to combine the cited references is absent. Applicants respectfully traverse the Office's assertion that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the claimed features of Applicants' invention. Such could be possible only in hindsight and in light of Applicants' teachings. Therefore, the rejection of independent claims 1, 9, and 43, and their corresponding dependent claims 2-3, 5-8, 10-11, 13-16, 44-45, and 49-52, is improper at least for that reason and should be withdrawn.

The rejection of independent claim 26, and its dependent claims 27-29, 32, and 34, is respectfully traversed for at least the following reasons. Claim 26 recites:

"26. (Previously presented) One or more computer-readable media having computer-readable instructions thereon which, when executed by one or more processors, cause the one or more processors to:
receive data defining a document having a plurality of logical pages that is to be printed on a printer;
process the data to identify one or more characteristics of the data, at least one of the characteristics pertaining to a font that is to appear on a printed document; and
based on the one or more characteristics, select a number of logical pages per print medium page for an N-Up printing mode in which to print the document such that the font is readable by the human eye." (emphasis added)

The Office has not established a *prima facie* case of obviousness at least because the applied references do not teach or suggest all of Applicants' claim limitations. With regard to the rejection of claim 26, the Office refers to the rejection of claim 35 (discussed heretofore) and states that

"Kuroda ('073) discloses the data is processed to identify characteristics of the data, such as font, or character print command. Using this characteristic, the font's height and size effects [sic] the number of pages to be printed which in turn determines the appropriate number of logical pages per print medium page for the N-Up printing mode to appear on a printed document (See Col. 14, Line 19-22)" (Office Action, p.5).

Regardless of to whatever extent this may be true, there is no teaching in the Kuroda reference that the selection of the number of logical pages per print medium page is performed in

a manner such that the font is readable by the human eye. And as discussed above with regard to claim 35, document data is not processed in the Tillotson reference to identify a characteristic that is then used to select the number of logical pages per print medium page such that a font is readable by the human eye. The identification of any such characteristic associated with readability, such as l_{max}, is performed manually by the user.

In addition, the Office has not established a *prima facie* case of obviousness at least because, as explained above with regard to claim 35, there is no suggestion or motivation to modify the reference or to combine reference teachings.

At least for the reasons discussed above, Applicants respectfully traverse the Office's assertion that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the claimed features of Applicants' invention. Such could be possible only in hindsight and in light of Applicants' teachings. Therefore, the rejection is improper and should be withdrawn.

Independent claim 17 recites limitations similar to those of claim 26, discussed above, and was rejected on the same or similar basis. For similar reasons as explained with regard to claim 26, the features of the present invention are not taught or suggested by the cited references, and motivation to combine the cited references is missing. Applicants respectfully traverse the Office's assertion that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the claimed features of Applicants' invention. Such could be possible only in hindsight and in light of Applicants' teachings. Therefore, the rejection of independent claim 17, and its corresponding dependent claims 18-20, 23, and 25, is improper at least for that reason and should be withdrawn.

Claims 21-22 and 30-31 have been rejected under 35 USC §103 (a), as being unpatentable over U.S. patent 6,757,073 to Kuroda ("Kuroda") in view of U.S. patent 6,667,814 to Tillotson ("Tillotson"), and further in view of the printed publication *Mastering Microsoft*

Office 97 by Moseley and Boodey. Applicants respectfully traverse the rejection and request reconsideration based on the dependence of these claims on one of independent claims 17 and 26, whose reasons for allowability over the Kuroda and Tillotson references have been discussed heretofore and against which the *Mastering Microsoft Office 97* reference has not been cited.

Dependent claim 21 is further patentably distinguishable over the cited references because the applied references do not teach or suggest the limitations of claim 21. Neither the Kuroda reference nor the Tillotson reference teach or suggest "wherein said at least one characteristic pertaining to the font pertains to a font complexity", as recited in claim 21. The Office states that in "Microsoft Word, the user has the option to customize the font complexity, whether times new roman, arial, courier, etc., on the toolbar prior to outputting it", and that it would have been obvious "to include font complexity in the application program, such as Microsoft Word, incorporated into the data processing of Kuroda ('073) because the user has the option to select one of many font complexities to enhance the document prior to having the data processed and outputted onto a printer" (Office Action, p.9). However, the *Mastering Microsoft Office 97* reference teaches only to include font complexity in the document data; it does not teach or suggest, alone or in combination with the Kuroda and Tillotson references, that the document data be processed to identify the font complexity, and that based on the font complexity a number of logical pages per print medium should be selected such that the font is readable by the human eye. Such could be possible only in hindsight, and in light of Applicants' teachings. Dependent claim 30 is also further patentably distinguishable over the cited references for similar reasons as claim 21.

Dependent claims 22 and 31 are similar to claims 21 and 30, except that they each recite "a graphics-based font" in place of "a font complexity". Claims 22 and 31 were rejected based on an analogous rationale, and therefore are each additionally traversed for reasons analogous to those stated above for claims 21 and 30.

Dependent claims 24, 33, 41, and 48 have been rejected under 35 USC §103(a), as being

unpatentable over U.S. patent 6,757,073 to Kuroda ("Kuroda") in view of U.S. patent 6,667,814 to Tillotson ("Tillotson"), and further in view of U.S. published patent application 2002/0051205 to Teranishi ("Teranishi"). Applicants respectfully traverse the rejection and request reconsideration based on the dependence of these claims on one of independent claims 17, 26, 35, and 43, whose reasons for allowability over the Kuroda and Tillotson references have been discussed heretofore and against which the Teranishi reference has not been cited.

Dependent claims 46 and 47 have been rejected under 35 USC §103(a), apparently as being unpatentable over U.S. patent 6,757,073 to Kuroda ("Kuroda") in view of U.S. patent 6,667,814 to Tillotson ("Tillotson"), and further in light of the case law of *In re Japikse*, 86 USPQ 70 (CCPA 1950). Applicants respectfully traverse the rejection and request reconsideration based on the dependence of these claims on independent claim 43, whose reasons for allowability over the Kuroda and Tillotson references have been discussed heretofore and against which the portion of *In re Japikse* referred to by the Office has not been cited and is not applicable.

Conclusion

Attorney for Applicant(s) has carefully reviewed each one of the cited references made of record and not relied upon, and believes that the claims presently on file in the subject application patentably distinguish thereover, either taken alone or in combination with one another.

Therefore, all claims presently on file in the subject application are in condition for immediate allowance, and such action is respectfully requested. If it is felt for any reason that direct communication with Applicant's attorney would serve to advance prosecution of this case to finality, the Examiner is invited to call the undersigned Robert C. Sismilich, Esq. at the below-listed telephone number.

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FOR THE ACCEPTANCE OF ANY NECESSARY FEES

If any charges or fees must be paid in connection with the foregoing communication (including but not limited to the payment of an extension fee or issue fees), or if any overpayment is to be refunded in connection with the above-identified application, any such charges or fees, or any such overpayment, may be respectively paid out of, or into, the Deposit Account No. 08-2025 of Hewlett-Packard Company. If any such payment also requires Petition or Extension Request, please construe this authorization to pay as the necessary Petition or Request which is required to accompany the payment.

Respectfully submitted,

Robert C. Sismilich
Reg. No. 41,314
Attorney for Applicant(s)
Telephone: (858) 547-9803

Date: 4/21/06

Hewlett-Packard Company
Intellectual Property Administration
P. O. Box 272400
Fort Collins, CO 80527-2400